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AUTHOR Michael, Robert O.
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ABSTRACT

A conceptual model of sudden organizational change, the Significant Change Model, is described and graphically displayed. The model includes the organizational member's perception of the degree, magnitude, or abruptness of an institutional change in relation to the individual's imputed value of the perceived change. Both of these factors are combined in the Significant Change Model to produce the behavioral relationship between the organization and its members. A matrix of the model illustrates the interactions between the perceptions of magnitude and value of institutional change. For example, in the first section of the matrix, there is a perception of no change in the organization and an attachment of no positive value to this: the status quo prevails. Nine sections of the matrix are explained with reference to higher education institutions. A further graphic representation of the Significant Change Model occurs by applying the components to the cusp catastrophe model, which provides an additional qualitative dimension toward the development of the model. A Loss and Grief model is also applied to organizational change. (SW)

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SUDDEN ORGANIZATIONAL CHANGE

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Robert O. Michael
Special Project Coordinator
Georia Career Information System
Georgia State University
Atlanta, Georgia 30303
(404) 658-3100

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This paper was presented at the 1982 Annual Conference of the Southern Association for Institutional Research held in Birmingham, Alabama, October 1982. It was reviewed by the SAIR Publications Committee and was judged to be of high quality and of interest to others concerned with the research in higher education. This paper has therefore been selected to be included in the ERIC collection of Conference Papers.

Gerald W. McLaughlin
President, SAIR

Sudden Organizational Change

Change in higher education is traditionally analyzed in terms of gradual structural or procedural change through the use of such models as planned change, diffusion, organizational development, and political interaction. (For an excellent overview of these models, see Dill and Friedman, 1979.) Each of these models has contributed toward the understanding of the change process, but each has a common limitation which prevents a broader understanding of organizational change than what currently exists. Through descriptions of change as a logical process which can be neatly described with bell-shaped curves and S-curves or through analyses of change as an orderly alteration of organizational structure, these change models all serve well in describing and analyzing evolutionary change at a group or organizational level. What is lacking, however, is a change model which can describe and analyze or even predict sudden or abrupt change.

Because the movement of organizations over time creates a view of gradual change, sudden or abrupt change events are lost in the traditional models of change. Evolutionary changes of organizational structure and process are adequately addressed by these models, but events which are perceived by organizational members as suddenly or abruptly altering the structure, processes, behaviors and values of an organization and its members are lost in these models. While an organization may abruptly or significantly change its operating structures or procedures, this alteration is described in traditional change models as a small portion of a larger organizational evolution or gradual change. What the

traditional change models fail to adequately account for or describe is organizational change in terms other than evolutionary, often in terms other than structural, and in terms other than a group or organizational level of analysis.

In addition to the lack of adequate descriptions and analyses permitted by the traditional change models, these models are limited primarily to structure- or process-based change. The amount of change of an institution is often measured by the degree to which organizational structures are altered or by the extent of organizational involvement in the change process. These models do not generally have, however, the capacity to explain or describe change in terms of the relationship between an individual's perceptions of change magnitude and/or abruptness and the individual's personally-assigned importance of the change.

What is needed, then, in the study of organizational change are models which can fill the descriptive, analytical, and predictive voids left by the traditional change models. Sudden organizational change must be analyzed as an event in and of itself, as well as a portion of a larger change process. Additionally, the perspective of change as structure- or process-based needs to be shifted to include a theory of change based upon the perceptions and values of the change held by organizational members.

The Significant Change Model described below is an attempt to partially fill these voids by including within one conceptual model the organizational member's perception of the degree, magnitude, or abruptness of an institutional change in relation to the individual's imputed value of the perceived change. Both of these factors are combined in the Significant Change Model to produce the behavioral relationship between the organization and its members. The remainder

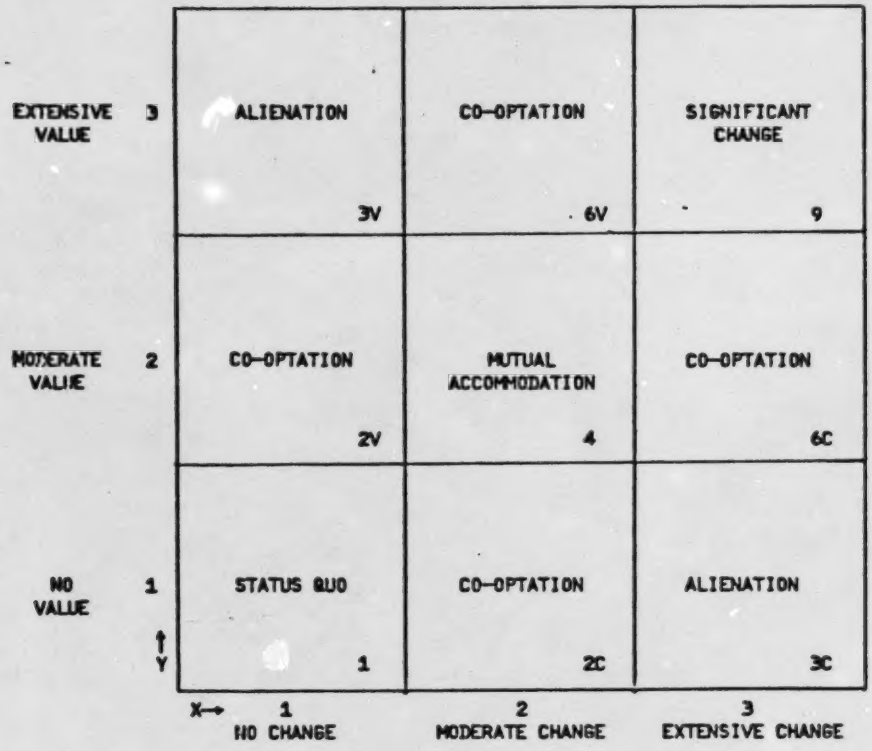
of the paper will outline the Significant Change Model and graphically depict it through a change matrix and a cusp catastrophe model.

The Significant Change Model is based upon the interaction between the individual's perception of the magnitude of an organizational change and the member's imputed positive personal value of the change. The various interactions between the perceptions of magnitude and value are reflected in the relationship between the individual and the organization. The interactions between the perceptions and their resulting relationships are depicted in Figure 1.

The X-axis represents the individual's perception of the magnitude of the change, and the Y-axis represents the individual's imputed positive personal value of the change or of the need for change. As the perception of the change magnitude increases, the X-axis value increases within a range of 1 to 3. A score of 1 is labeled as a no change, a score of 2 is labeled as moderate change, and a score of 3 is labeled as extensive change. The Y-axis increases in a similar manner, with the value of 1 labeled as an imputation of no positive personal value, a score of 2 is labeled as an imputation of moderate positive personal value, and a score of 3 is labeled as an imputation of strong or extensive personal value.

Each section of the change matrix is numbered as the product of the X- and Y-axis values and has a value ranging from 1 to 9. A section is labeled in terms of the relationship between the individual and the organization in a change process. In addition to representing a change in the perception and value, a shift in the matrix cells can be seen as indicative of sudden or abrupt

FIGURE 1
SIGNIFICANT CHANGE MODEL



X-AXIS - PERCEIVED MAGNITUDE OF CHANGE
Y-AXIS - IMPUTED VALUE

TABLE 1
SECTION LABELS AND VALUES

SECTION NUMBER	RELATIONSHIP LABEL	AXES PRODUCT	AXES DIFFERENCE (Y-X)
1	STATUS QUO	1	| 0 |
2V	CO-OPTATION	2	| 1 |
2C	CO-OPTATION	2	|-1 |
3V	ALIENATION	3	| 2 |
3C	ALIENATION	3	|-2 |
4	MUTUAL ACCOMMODATION	4	| 0 |
6V	CO-OPTATION	6	| 1 |
6C	CO-OPTATION	6	|-1 |
9	SIGNIFICANT CHANGE	9	| 0 |

change in the relationship between the individual and the organization.

In Section 1 there is a perception of no change in the organization and an attachment of no positive (or possibly neutral) value to this. In this section the status quo prevails. Such situations are often found in higher educational institutions. For example, departmental meetings in which a proposal that no changes be made in student examination policies is accepted in terms of the imputation of no value fits well into this section.

For Section 2V, the individual places moderate value on a need for change, but this is in conflict with the no change perception which exists. This mismatch or incongruity between the imputed value and the perception of change forces the individual to co-opt his/her value in the face of an organization which is perceived as unchanging. For example, a faculty member may exist in a co-optation mode if he/she imputes a moderate value to the need for change in examination practices from multiple-choice to essay format, but in the face of a generally unmoving department. In order to maintain the relationship with the department, the individual will co-opt the imputed value and may continue to measure student progress with multiple-choice exams.

In Section 2C the same situation occurs as in 2V, except that the co-optation relationship is reversed. Instead of the individual valuing the need for change, he/she perceives a moderate change upon which he/she imputes no positive personal value. In this case it is the organization which is co-opted, and not the individual. Here the examination format may remain the same, but the faculty member might place grading emphasis on other measures of classroom performance.

Section 4 reflects a situation similar to the one found in Section 1--status quo--in that both the imputed value of change and the perception of change are the same. In this case both the value and the perception are moderate (or a score of 2 on the respective axes) resulting in mutual accomodation between the organization and the individual. A movement into this section eliminates the need for co-optation, thus allowing for a smooth and accepted change.

Sections 3V and 3C represent the greatest difference, both numerically and conceptually, between the imputed value and the perceived magnitude of change. In both situations the difference is so great that alienation results, often with the possibility of termination of the relationship between the individual and the organization. In these sections the difference between the X- and Y- axis values is $|2|$. (Table 1) This is one point greater than the co-optation relations in cells 2V and 2C, and two points greater than the differences found in status quo and mutual accommodation cells.

In Section 3V the extensive value imputed to a change is combined with a perception of no change within the organization. The faculty member who places a great deal of value in a departmental change and yet perceives a no change situation will probably find him/herself alienated from the department. Should the magnitudes of the X- and Y-axis be reversed, the feeling of alienation will also exist, but in this case it is the individual who places no value upon what is perceived as an extensive or extreme change. Continuing the multiple-choice versus essay examination example, an alienated faculty member may begin a new testing format in spite of the continuation of a multiple-choice exam policy. Or,

in the reverse situation, the faculty member may continue to use multiple-choice exams despite departmental movement to essay exams. In either case, the individual and the department have now entered into an extremely strained or alienated relationship. Such a relationship could precipitate reconciliation through co-optation of acceptance, or it could lead to termination of the relationship.

In Sections 6V and 6C a situation occurs which is similar to the one in Sections 2C and 2V. Here again co-optation appears when the difference between the imputed value of change and the perceived magnitude of change is $|1|$. The major difference between the two co-optation sets of 2V/2C and 6V/6C is that both the X- and Y-axis for the 6V/6C cells have a value greater than 1.

Section 9 represents the situation in which both the imputed value and the perceived magnitude of change are simultaneously of the greatest strength or magnitude. The perceived extensive change is paired with the imputation of immense value of the change. Although similar to Sections 1 and 4 where the X and Y values are identical, Section 9 does not yield a status quo or mutual accommodation relationship. In Section 9 significant change is achieved in the relationship between the individual and the organization. The faculty member whose imputation of value upon a situation perceived as an extensive change will find that a significant change in the relationship has occurred. In the examination format example, both the individual and the department may agree on a shift from multiple-choice to essay examination, or may move to eliminate written examination altogether.

The relationships used to label the 9 sections of the Significant Change Model can be further analyzed along two dimensions in addition to the X- and Y-axis. These two dimensions are accommodation (A) and abnormality (N), depicted in Figure 2 as the diagonals A and N superimposed upon the Significant Change Model of Figure 1. The accommodation diagonal represents the degree of change in the relationship between the organization and the individual, and the difference between the perception of change (X-axis) and the imputed value of change (Y-axis). Sections 1, 4 and 9 reflect the increasing magnitude of change which maintains the integrity of the relationship between the individual and the organization from Section 1 through Section 4 to Section 9.

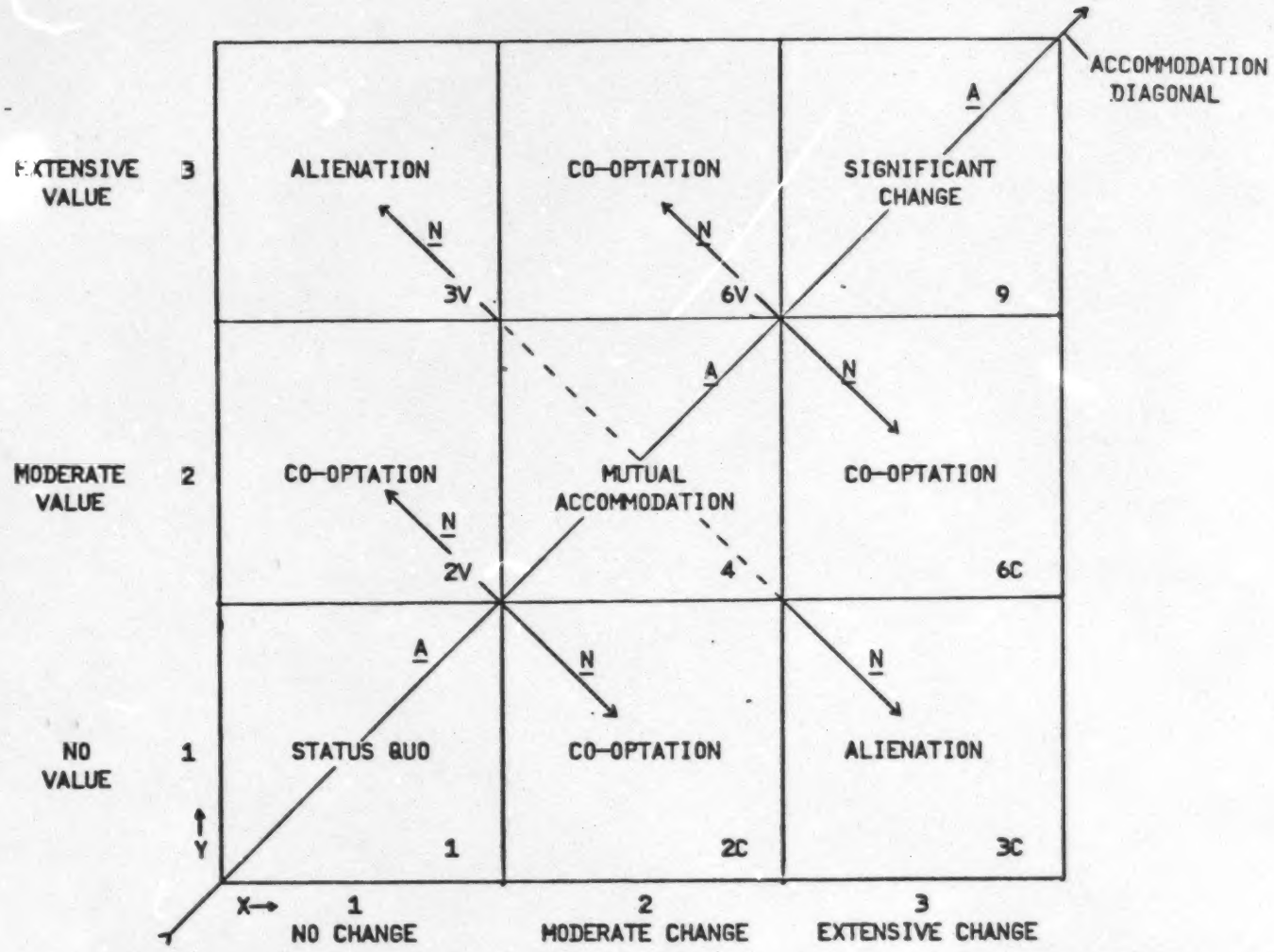
While the A diagonal represents a 'normal' (no difference between X and Y) relationship, the problem relationships (a difference between X and Y) are represented by the abnormality (N) diagonals running perpendicular to the accommodation (A) line. As the difference between the imputed value and perceived change dimensions increases, the value of the abnormality diagonal increases. As shown in Figure 2, the diagonals are prominent in those sections where co-optation or alienation exists. Furthermore, while the abnormality diagonals appear only in the sections shown in the figure, it is probably the case that any deviation from the accommodation axis will cause a degree of abnormality in the relationship.

A further graphic representation of the Significant Change Model is obtained by applying the components of the Model to the cusp catastrophe model, one of the seven elementary catastrophe models of Catastrophe Theory. While the validity of this application remains untested, the cusp catastrophe model provides an

FIGURE 2

SIGNIFICANT CHANGE MODEL

ACCOMMODATION(A) AND ABNORMALITY(N) DIAGONALS



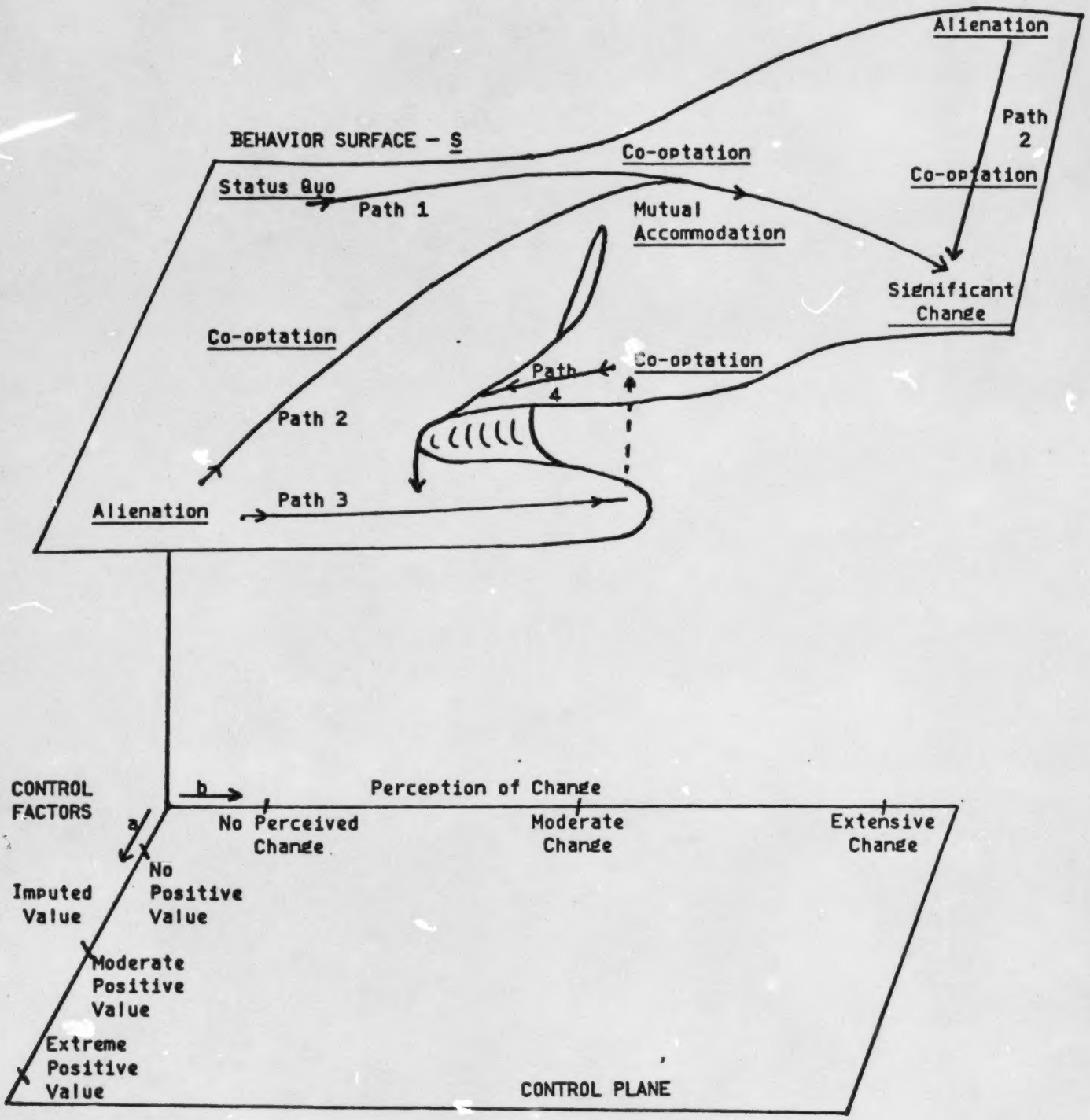
X-AXIS - PERCEIVED MAGNITUDE OF CHANGE
Y-AXIS - IMPUTED VALUE
A - ACCOMMODATION DIAGONAL
N - ABNORMALITY DIAGONAL

added qualitative dimension towards the development to the Significant Change Model.

The French mathematician René Thom developed Catastrophe Theory as a series of mathematical and conceptual models for describing and predicting discontinuities in normally continuous variables (Zeeman, 1976a). Despite the controversy over the mathematical underpinnings and the conceptual applications of Catastrophe Theory (Kolata, 1977; Sussman and Zahler, 1978), it has gained in popularity as a qualitative model for depicting abrupt change phenomena for such diverse topics as prison riots (Zeeman, 1976b), cultural change (Renfrew, 1979), and anorexia nervosa (Callahan, 1982), to name just a few. (Because a complete description of Catastrophe Theory is beyond the scope of this paper, and because it has been lucidly explained elsewhere, the reader interested in pursuing the study of Catastrophe Theory should begin with any of the works cited in Appendix A.)

In the application of the Significant Change Model to the cusp catastrophe as depicted in Figure 3, the imputation of value and the perception of the magnitude of the change are the control factors (a,b). The relationship which occurs as a result of the interaction of these factors is outlined in the cusp model behavior space S located above the control plane of factors a and b. As in the Significant Change Model, a change in the control factors is reflected in a change in the behavior space. In addition, the cusp catastrophe model reflects the possible qualitative differences between the Significant Change Model Sections and the movement between these sections, particularly as the change process extends over time.

FIGURE 3
APPLICATION OF THE SIGNIFICANT CHANGE MODEL
TO THE CUSP CATASTROPHE MODEL



The cusp model depicts the possibility of gradual, continuous change from a relationship of status quo (Section 1) to mutual accommodation (Section 4) on through to a significant change (Section 9) as shown on Path 1. Here it is possible that the change in factor a and b (or the X- and Y-axis scores) occurs simultaneously, thus allowing for the smooth change from a status quo to a significant change relationship. In addition, a change from an alienated relationship to a significant change mode can also occur if the control factors change along Path 2. Similar smooth changes can also be found for movement between any of the different change relationships, including co-optation to alienation, co-optation to significant change, and significant change to alienation.

The discontinuity between the Significant Change Model sections can also be shown in the cusp model, thus adding a qualitative dimension to the Significant Change Model. For example, Path 3 shows the movement from alienation to co-optation as a catastrophic jump from the bottom sheet to the top sheet of the behavioral space. Such a catastrophic or discontinuous change may occur when an individual maintains a high value level in an organization which is perceived as unchanging, thus creating an alienation relationship. Should the individual maintain this extremely high value level while altering the perception of the change of the organization, a catastrophic jump from alienation to co-optation occurs as the magnitude of perceived change increases (Path 3). Similarly, Path 4 shows that a catastrophic jump from co-optation to alienation may take

place, but according to the cusp model, here the perceived magnitude of change decreases to a level lower than Path 3, while the level of imputed value remains constant.

Because the application of the Significant Change Model to the cusp catastrophe is purely preliminary and conjectural, it demands testing. While the concepts underlying the Significant Change Model appear to fit well in the cusp model, Catastrophe Theory has a mathematical basis from which its models are derived. By creating methods for quantifying the Significant Change Model, data can be collected for validating the application of the Model through the mathematics of Catastrophe Theory.

One possible approach to the quantification of the Significant Change Model lies in the development of measures for the value imputation factor and perception of change factor which comprise each of the 9 sections of the Model. One set of data can possibly be obtained by measuring the individual's perception of personal and/or professional loss (or gain) vis-a-vis the perception of change and the imputed value. Thus, loss measures could be taken for each of the sections and then analyzed for the conceptual and mathematical validity of the Significant Change Model and its application to the cusp catastrophe, particularly in terms of the movement between the model sections and the structure of the behavior surface of the cusp catastrophe.

While the Loss and Grief Models of Bowlby (1980), Parke (1972), and Kubler-Ross (1969), to name a few, have achieved wide-spread popularity in psychology, medicine, and psychiatry, application to the understanding of organizational change has just recently begun to grow. Described by John Bowlby in his study of the

reactions of parents to the slow death of their children afflicted with fatal illness and to children's reactions to the loss of a parent (Konner, 1982), the grieving process has enjoyed tremendous popular and scholarly attention with the publication of Kubler-Ross' On Death and Dying. Kubler-Ross (1969) claims that the grieving process which occurs in the face of impending or existing loss usually occurs in five stages of varying lengths and often in varying order. While there is little agreement over the number of stages of the grieving process, the Kubler-Ross stages of the grief process suggest the broad ranges of emotions which can occur. Because the Kubler-Ross stages of grieving can be easily adapted for quantification and examination, many of the studies which have described organizational change in terms of loss and grief have used these five stages -- Anger, Denial, Bargaining, Depression, and Acceptance.

Those who apply a Loss and Grief model to organizational change note that many types of organizational change can elicit reactions and emotions similar to those experienced by victims of traumas such as the death of a relative, amputation, rape, job termination, or divorce. Willmer and O'Conner (1979) have observed that the closing of a college campus precipitates reactions similar to those experienced by people during their grieving of the death of a family member. The authors state that any understanding of organizational change processes as traumatic as the closing of a college campus can move along more smoothly through an understanding of the grieving process experienced by organizational members.

O'Conner (1982) expands upon the range of application of the Loss and Grief Model by maintaining that an event as sudden or as dramatic as closure is not necessary to elicit the grieving response. Any change which organizational members perceive as having negative personal impacts will precipitate the grieving responses or stages similar to the reactions to the loss of a relative. In these change situations the Kubler-Ross stages serve as a model for administrators and managers to assist them in understanding employee reactions and in developing techniques for facilitating movement through the stages of grief. [Frears and Schneider (1981) note that this movement through the grief stages is essential if individual psychological well-being and growth are to be realized after the loss.]

O'Conner's application of the stages of grief is notable in that total separation (i.e., loss) is not necessary for the grief responses to appear (O'Conner, 1982). Similarly, the relationships between the individual and the organization is maintained throughout the Significant Change Model. It is within the boundaries of the relationships between the individual and the organization that the grieving process is seen to apply.

The Loss and Grief Model has also been applied to the study of organizational change in higher eudcation. In her study of perceived effects of administrative changes at the University of Texas School of Nursing, Langston (1978) found that organizational members experienced feelings of both professional and personal loss. Furthermore, for those members who reported a feeling of loss, grief was a response as measured by an open-ended questionnaire and an extensive 'feelings' checklist designed to elicit emotional reactions to the change.

The validity and the utility of the Significant Change Model and its application to the cusp catastrophe model have yet to be proved. Through the use of the Loss and Grief Model as the basis of measurement for each of the sections of the Significant Change Model, it is possible that the Model can be quantified and verified as an independent conceptual model of organizational change, the mathematics of which fit the cusp catastrophe.

Despite this lack of empirical testing, however, the Significant Change Model and its suggested connections with Catastrophe Theory and the Loss and Grief Model point to the need for new change models which include individual perceptions and values, the shifting of the relationship between the individual and the organization, and sudden or abrupt change which can be examined in terms other than evolutionary. Such change models would not only contribute to our understanding of sudden organizational change, but they could also aid in the development of techniques to assist organizational members through what they perceive to be abrupt and extensive organizational change.

Appendix A

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